

***Remarks***

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 13 and 16-22 are pending in the application, with claims 13 and 16 being the independent claims. Claims 13, 16, and 20-21 are sought to be amended. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

***Rejections under 35 U.S.C. § 102***

Claim 13 stands rejected under 35 U.S.C. 102(b) as being allegedly anticipated by either of JP1-205392 ("JP1") or JP3-161884 ("JP3").

Regarding JP1, the Examiner states that JP1 discloses "an electro-optical biometric image capturing system including a prism 11 and an infrared heater 20 disposed outside the optical path." *See*, Office Action, page 2. Applicants respectfully traverse. Even if JP1 does disclose these elements, which Applicants do not concede, JP1 does not teach or suggest every feature of claim 13. Among other features, JP1 does not teach a heater assembly wherein "said heater assembly is attached to a surface of said electro-optical biometric image capturing system that is outside the optical path." The infrared heater 20 in JP1 is clearly unattached, as shown in FIG. 2.

Fig 1?

Similarly, the Examiner alleges that JP3 discloses a biometric system with heaters. Applicants respectfully traverse. Much like JP1, JP3 does not teach or suggest every feature of claim 13. Among other features, JP3 does not teach a heater assembly wherein "said heater assembly is attached to a surface of said electro-optical biometric image capturing system that is outside the optical path." The heaters 21 and 16 to which the Examiner refers are not attached to a surface outside the optical path.

For at least these reasons, Applicants respectfully submit that claim 13 is patentable over JP1 and JP3. Reconsideration and withdrawal of the rejection is respectfully requested.

Claims 13, 16-18, and 20 stand rejected under 35 U.S.C. 102(b) as being allegedly anticipated by SU1769854 ("the USSR patent"). Applicants respectfully traverse. The USSR patent teaches a thermoelectric device including a liquid crystal sensor for sensing capillary blood flow. *See*, the USSR patent, page 2, para. 5. It achieves this end by detecting a thermal field produced when a warm object, such as a finger, is placed onto the sensor. *Id.* The sensor also includes thermoelectric elements, whose cold joints are connected to the sensor, with the hot joints connected to air radiators. *Id.* at para. 4. These thermoelectric elements act to remove heat from the liquid crystal sensor until the sensor reaches the lowest temperature allowable for the cholesteric phase of the liquid crystal to exist. *Id.* at para. 5. As stated on page 2, para. 6, of the USSR patent, the hot joints of the thermoelectric elements, which are connected to the air radiators, are used to rid the system of excess heat. In this manner, heat is removed from the liquid crystal sensor.

The invention taught by the USSR patent is quite different from the invention presently claimed. First, the USSR patent does not teach or suggest an electro-optical image capturing system, as claimed each of claims 13 and 16. The USSR patent does not use TIR; it instead uses a thermal field. Therefore, the USSR patent is not an electro-optical device. Further, as discussed above, the USSR patent does not heat the prism, a feature claimed in each of claims 13 and 16.

Finally, the USSR patent cannot produce the results achieved by the present invention. As stated above, the USSR patent senses temperature changes resulting from blood flow in the capillaries of a finger. Because it relies on a temperature differential, the invention of the USSR patent cannot ascertain ridged print patterns. In contrast, claim 13, as amended, teaches "a system for capturing ridged print patterns of a biometric object."

For at least these reasons, Applicants respectfully submit that the USSR patent does not teach or suggest all the features of claims 13 and 16. Reconsideration and withdrawal of the rejections of claims 13 and 16 are respectfully requested.

Each of claims 17, 18, and 20 are dependent on claim 16. Therefore, Applicants respectfully submit that claims 17, 18, and 20 are thus patentable over the USSR patent for at least the same reasons as discussed with respect to claim 16. Reconsideration and withdrawal of the rejections of claims 17, 18, and 20 are respectfully requested.

***Rejections under 35 U.S.C. § 103***

Claims 19 and 21 stand rejected under 35 U.S.C. 103(a) as being allegedly unpatentable over the USSR patent in view of U.S. Pat. No. 5,825,474 issued to Maase ("Maase"). Applicants respectfully traverse.

It would not be obvious to one of skill in the art to combine the USSR patent and Maase to produce a biometric imaging device. As discussed above with respect to the USSR patent, the USSR patent teaches the use of a liquid crystal sensor to detect temperature changes in a finger due to capillary blood flow. If a silicon pad were placed on top of the liquid crystal element, a thermal barrier would exist between the finger and the liquid crystal sensor. Because of this barrier, the sensor would be unable to detect temperature changes. Thus, it would not be obvious to one of skill in the art to combine the two patents, since the resulting device would not work.

Further, even if the USSR patent and Maase could be combined to produce a functioning device, which Applicants do not concede, the combination still would not teach or suggest all the features of the present invention. As discussed above with respect to claim 16, the USSR patent does not teach or suggest all the features of claim 16. Maase also does not teach or suggest all of the features discussed above with respect to claim 16. For example, Maase does not teach or suggest a "heater assembly is attached to a surface of said electro-optical biometric image capturing system that is outside the optical path." Since claims 19 and 21 depend from claim 16, and incorporate all the features of claim 16, Applicants respectfully submit that the combination of the USSR patent and Maase do not teach or suggest all the features of claims 19 and 21.

Since it would not be obvious to one of skill in the art to combine the USSR patent with Maase, and since the combination would not teach or suggest all the features of claims 19 and 21, Applicants respectfully submit that claims 19 and 21 are patentable over the USSR patent in view of Maase. Reconsideration and withdrawal of the rejections are respectfully requested.

***Claim Amendments***

Claims 20 and 21 have been amended for purposes of clarity. Applicants respectfully submit that these amendments are not in response to any references cited by the Examiner.

***Conclusion***

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Michelle K. Holoubek  
Agent for Applicants  
Registration No. 54,179

Date: 11/19/03

1100 New York Avenue, N.W.  
Washington, D.C. 20005-3934  
(202) 371-2600